

The hypocone (figs. 2 & 3) is compressed, bent rather forwards, and is higher than the protocone. The external wall of the paracone (fig. 2) is much bent inwards.

This tooth, therefore, does not resemble any Indian forms hitherto described. In size and general shape it is at first sight somewhat like *Chalicotherium* (*Circotherium*) *sivalense*. The latter species, however, the type-specimens of which are in the British Museum, shows in one point a very distinct difference not only from the present species, but apparently from all *Chalicotheres* with the exception of *C. sinense*.

Osborn\*, in his description of *Eomoropus*, states that a protoconule is characteristic of all known *Chalicotheres*. *C. sivalense*, however, certainly lacks the cusp, which is not shown in Falconer's figure on either the second or third molars. An inspection of the actual specimens shows that his drawings are correct, and, as the third molar is quite unworn and in good preservation, there can be no doubt that this cusp is really absent. The figure of *Chalicotherium sinense* (Owen) in the 'Catalogue of Fossil Mammalia of the British Museum' (part iii. page 165) shows very clearly that the protoconule was absent also in this tooth. The absence of a protoconule may therefore be added as another character to the definition of the genus *Circotherium* as given by Holland and Peterson†.

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LVI.—*Descriptions and Records of Bees.*—XCVI.

By T. D. A. COCKERELL, University of Colorado.

*Augochlora humeralis*, Patton.

Patton described this species from specimens collected by Williston in North-western Kansas. Robertson suggested that it might be *fervida*, Smith, to which Patton considered it allied. As *fervida* is wide-spread in Kansas and Texas, and I had nothing agreeing better with *humeralis*, I supposed that the suggested synonymy might be correct. However, on July 23, 1922, Mr. Earl G. Smith took a female at flowers of *Peritoma serrulatum*, about five miles south-east of Cornish, Colorado, which agrees excellently with Patton's

\* Bull. Am. Mus. Nat. Hist. vol. xxxii. p. 268.

† Loc. cit. p. 211.

description, and is obviously distinct from *servida*. *A. humeralis* is thus established as valid, and will be recognized especially by the dark antennæ; anterior angles of prothorax extremely prominent and sharp; area of metathorax very large, longer than postscutellum, finely rugulose all over, but not otherwise sculptured; posterior truncation shining, with very strong sharp margins. Abdomen dullish, with fine punctures of different sizes; hind spur with only three spines, these very long. Vachal has proposed to change the name to *pattoni*, on account of Sichel's earlier *humeralis*, but I do not think Sichel's bee is congeneric.

*Alcidamea grinnelli*, Cockerell.

Described from the ♀ in 1910. I have now before me two males from the mountains near Claremont, California (Baker, 7222, 7235). They are about 6 mm. long, resembling *A. simplex* (Cress.), but easily separated by the strongly dusky wings, more closely punctured mesothorax, and castaneous tegulæ. The process on second ventral segment is of the same kind, though rather smaller. The hind margins of the abdominal segments are ferruginous; the apical process is distinctly broader, and reddish. The flagellum is bright ferruginous beneath.

The Californian *A. colei*, Crawford, is considerably smaller, with clearer wings.

*Ashmeadiella floridana* (Robertson).

I have not seen *Heriades floridanus*, Rob., 1897, but Professor Titus informed me many years ago that Robertson referred it to *Ashmeadiella*.

*Ashmeadiella meliloti* (Cockerell).

♂.—Albuquerque, New Mexico, June 2, 1911 (Watson).

*Ashmeadiella wislizeni*, sp. n.

♂.—Length about 5.5 mm.

Black, similar to *A. meliloti*, but differing thus: the four teeth at apex of abdomen nearly equal in size, the middle pair hardly longer than broad; mesothorax shining, with large sparse punctures; first r. n. joining second s. n. at a distance from its base conspicuously less than length of

intercubitus. By the short middle teeth of abdomen it resembles *A. schwarzii*, Titus, but in that species the teeth are red and the thorax is apparently more densely punctured.

Mesilla Park, New Mexico, 3800 ft. alt., at flowers of *Dithyrea wislizeni*, Engelm., May 7 (Cockerell).

I have long had this in my collection, mixed with *A. meliloti*, but it is certainly distinct. At the same time, place, and flowers, I also took *Perdita exclamans*, Ckll.

*Ashmeadiella californica* (Ashmead).

Described by Ashmead (1897) as a *Chalicodoma*. A male before me is from Claremont, California (Baker, 7223). The wings are greyish, not "subfuscous"; hair on head and thorax above ochreous; median apical teeth of abdomen long.

*Heriades carinatus*, Cresson.

♀.—Fedor, Texas (Birkman).

*Robertsonella dolichosoma*, sp. n.

♀.—Length about 7 mm.

Black, elongate, finely punctured; pubescence thin and white, thorax above nearly bare; abdomen with conspicuous narrow white hair-bands; ventral scopa white; maxillary palpi 4-jointed, last joint very small; clypeus convex, minutely and very densely punctured, not hairy. Antennæ black, flagellum stout; a smooth shining space above each antenna; facial quadrangle longer than broad, but head rather broad; front very densely and minutely punctured; thorax rather long; mesothorax and scutellum shining, finely and quite closely punctured; area of metathorax dull, except its descending apex, which is polished; tegulæ shining black. Wings dilute fuliginous; b.n. falling a little short of nervulus; first r.n. ending a short distance from base of second s.m., hardly half the distance of second r.n. from apex. Legs entirely black, spurs pale reddish. Abdomen shining, closely and very finely punctured, the punctures practically uniform throughout.

Mountains near Claremont, California (Baker, 7225). Easily known from the two previously described species by the longer thorax and quite different sculpture of abdomen. It is not *Heriades albicinctum*, Prov., which Titus has

ascertained to be a synonym of *Chelostoma californicum*, Cresson.

*Sphecodes pecosensis salicis*, subsp. n.

♀.—Length about 9 mm.

Similar to *S. pecosensis*, Ckll., with inner tooth on mandibles and deep dorsal constriction between first and second abdominal segments, but differing thus: area of metathorax not defined, covered with very coarse vermiform (not straight) rugæ. Abdomen dusky chestnut-red, brighter on first two segments.

Mountains near Claremont, California, on *Salix* (Baker; Pomona College, 221).

*Perdita sphæralceæ ridens*, var. n.

♂.—Head extremely large, quadrate, broader than thorax, with the cheeks broadened and strongly projecting, obtusely angled; abdomen dull red with narrow yellow bands. Runs exactly to *P. sphæralceæ* in my tables, and while it looks very distinct, it is only a large-headed variety, such as occurs occasionally in other Panurgids.

Mesilla, New Mexico, at flowers of *Sphæralcea lobata*, var. *perpallida*, Ckll., Sept. 10 (Cockerell).

*Perdita platyura*, sp. n.

♀.—Length about 4.5 mm.

Robust, with very broad flat abdomen; head and thorax with thin but rather abundant white hair; head dark blue, shining, of ordinary form, facial quadrangle square; mandibles sordid whitish, red at apex; labrum sordid whitish, shining, prominent; cheeks dark; clypeus and lateral face-marks dull white, clypeus with the margin above broadly black, so that the white area is conical; lateral marks triangular, reaching about to level of antennæ, excavated on inner side above; thorax dark, blue-green, mesothorax dullish, tubercles dark. Wings milky hyaline with colourless nervures, stigma pale yellow; marginal cell squarely truncate; second s.m. long, receiving both recurrent nervures. Legs dark brown, very hairy, tarsi whitish, anterior tibiæ pale yellow in front. Abdomen above rather light brown, with large dusky sublateral spots, apex pale reddish, venter reddish brown.

Las Truchas, Guadalupe County, New Mexico (*Clara Gerhardt*).

In my tables of *Perdita* this finds no place, because the abdomen is spotted, but the markings are dark instead of light. It runs nearest to *P. asteris*, Ckll., and *P. fedorensis*, Ckll. It closely resembles *asteris* in the face-markings, but is easily separated by the abdomen.

*Euryglossella nothula*, sp. n.

♀.—Length about 4 mm.

Head and thorax black, abdomen purplish. In all respects very like *E. globuliceps*, Ckll., with the same incomplete second s.m., but separated thus: inner orbital margins with a yellow line; lower margin of clypeus, labrum, mandibles, and lower part of cheeks ferruginous; scape in front and under side of the very stout flagellum more or less ferruginous; head larger and more quadrate, the vertex elevated; anterior tibiæ and all the tarsi pale, with a slightly reddish tint, hind tibiæ reddened apically.

Bribie Island, Queensland, 9 ♀, August 29, 1918 (*H. Hacker*).

*Euryglossella atomaria*, Cockerell.

Brisbane, Sept. 26, 1916 (*Hacker*). A striking feature of this species is the pale yellow ventral surface of abdomen. On the same day Mr. Hacker took what must be considered the hitherto unknown male. It differs by the sepia-brown stigma and the obscure face-markings, the clypeus, lower part of supraclypeal area, and lower corners of face suffusedly and obscurely yellowish. The mandibles are clear pale yellow, dark at apex.

*Andrena spectabilis*, Smith.

I found this in the Oxford Museum. General aspect of *A. morio*, Brullé, but not so large, with white hair at sides of face, and area of metathorax with strong wrinkled rugæ.

*Andrena concinna*, Smith.

Oxford Museum. Stigma small and slender; hair at end of abdomen clear light ferruginous. In the S. S. Saunders collection is a male supposed to be *concinna*, but, as E. Saunders remarks in an appended note, the association cannot be proved correct.

*Andrena subglobosa*, Dours.

In the S. S. Saunders collection is a note by E. Saunders, querying whether this may be identical with *pallidicincta*, Brullé.

*Andrena breviscopa*, Pérez.

♀ in Mr. Morice's collection. Third s.m. very long; second s.m. receiving r.n. in middle; area of metathorax granular, the whole metathorax covered with long hair; hair of thorax above fulvous, bright on scutellum; stigma ferruginous with dark margin. General aspect of *afzeliella* and *wilkella*.

*Epicharis albofasciata*, Smith.

This has been regarded as the same as *E. maculata*, Smith. I examined the types in British Museum. *E. albofasciata* has the bands yellow, not white. *E. maculata* type (♀) has two yellow spots on scutellum; *albofasciata* (♂) has a broad band. There is another specimen of *albofasciata* from Pará, and many are from San Feliz, Panama (*Champion*).

*Epicharis cockerelli*, Friese.

The British Museum has a pair from Dueke. In the ♀ there are four large yellow spots on each side of the black abdomen; in the ♂ entire bands, the first deeply notched in front.

*Epicharis duckei*, Friese.

The ♀ has a large yellow patch on each side of second abdominal segment; the ♂ has an entire band, with anterior margin concave. *E. duckei* has a yellow band on scutellum, wanting in *cockerelli*.

*Halictus inornatus*, Bingham.

S. Africa. Oxford Museum. About 9.5 mm. long; black; area of metathorax short, dull, and rugose; pale tomentum at bases of abdominal segments; hind spur pectinate, with stout spines.

*Halictus cariniventris flavotectus*, subsp. n.

♀.—Head and thorax somewhat more robust ; mandibles red in middle ; abdomen above more densely pubescent, with bright yellowish hair hiding the surface. Wings slightly greyish.

Quetta, India, July 1903 (*Nurse*).

The specimen of *H. cariniventris*, Morawitz, used for comparison was collected at Buda by Friese, May 29, 1886, and was referred by him to that species with some doubt. Morawitz described the species from the male, collected in Turkestan ; in 1895 Dalla Torre and Friese recorded it from the Caucasus. I have not been able to see any Asiatic material of true *cariniventris*, and it is possible that when females are obtained in Turkestan, they will prove identical with the Quetta form.

Compared with *H. vestitus*, Lep., *flavotectus* is easily distinguished by being much larger and more robust, with yellow instead of white tomentum on abdomen. The mesothorax and scutellum are yellow-green, while in *vestitus* they are dark blue-green.

*Megachile marginata*, Smith.

I saw the type (♀) at Oxford. There is a strong band of tomentum in scutello-mesothoracic suture ; abdominal bands very light and distinct ; eyes light red ; ventral scopa black on last segment and fuscous on apex of penultimate one.

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LVII.—*A new Species of Mastacomys from a Cave in South Australia.* By OLDFIELD THOMAS.

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AMONG some rodent-remains found in guano-caves in S. Australia, presented to the Museum by Prof. Wood-Jones, and illustrative of his paper on the molar roots of Muridæ, there occurs the upper jaw of a *Mastacomys*—a genus as yet only known from one Tasmanian example, the type of *M. fuscus*,